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OSTROLENK FABER GERB & SOFFEN
1180 AVENUE OF THE AMERICAS
NEW YORK, NY 100368403

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHAN LINDSTROM

Appeal 2009-009139
Application 10/557,666
Technology Center 2800

Before JOSEPH F. RUGGIERO, ROBERT E. NAPPI, and
BRADLEY W. BAUMEISTER, *Administrative Patent Judges.*

BAUMEISTER, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Summary

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's rejections of claims 1-5, 7-14, and 17-20. Claims 1, 3-5, 7-10, 12-14, and 17-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Rouillard (US 5,952,815; issued Sep. 14, 1999). Claims 2 and 11 stand rejected under 35 U.S.C. § 103(a) as obvious over Rouillard.

We affirm.

Background

Appellant describes the invention as follows:

> The present invention relates to storage of electrical energy in a number of electrical storage modules, which are connected in series to one another. A DC-system voltage (V_{TOT}) is received and DC-to-DC converted into one voltage fraction (V_1, V_2) per electrical storage module. The respective voltage fractions (V_1, V_2) are delivered to each module and varied over time (t) within an interval (V_D) around a respective nominal module voltage (V_{1n}, V_{2n}). Thereby, the charging voltage is temporarily increased to a level which is sufficiently high to obtain an improved load capacity for each module. At the same time, the overall voltage over the electrical storage modules may be held at a harmless level with respect to any units that are included in the relevant electric circuitry.

(Abstract).

Claim 1 is illustrative of the appealed claims:

> 1. An arrangement for storing electrical energy comprising:
>
> an electric charge source between a first terminal and a second terminal,
>
> a plurality of electrical storage modules connected in series between the first terminal and the second terminal, each electrical storage module of the plurality of electrical storage modules having a respective nominal module voltage;

> a DC-to-DC converter coupled to the electric charge source and to each of the electrical storage modules, the DC-to-DC converter being operable to receive incoming power from the electric charge source and to supply a respective voltage fraction of the DC-system voltage to each electrical storage module
>
> wherein the DC-to-DC converter is further operable to control the respective voltage fraction to vary the respective voltage fraction over a time period within a voltage interval around the respective nominal module voltage of each electrical storage module such that during the time period the respective voltage fraction supplied to each electrical storage module is set to be higher than the respective nominal module voltage of each electrical storage module.

ANALYSIS

I.

Appellant first argues that the anticipation rejection over Rouillard is improper because each of the independent claims (claims 1, 10, and 19) recites a DC-to-DC converter that is coupled to the electric charge source in a specified manner, but Rouillard fails to disclose a DC-to-DC converter (App. Br. 4-5). Specifically, Appellant presents various arguments as to why Rouillard's equalizer modules 302 are not DC-to-DC converters (App. Br. 4-7; Reply Br. 1).

These arguments are unpersuasive. The Examiner does not base the rejection upon interpreting each equalizer 302 as an individual DC-to-DC converter. Rather, the rejection is premised upon interpreting all of the equalizers 302, in combination, as constituting one single DC-to-DC converter (*see, e.g.*, Ans. 11 (depicting Fig. 31 of Rouillard annotated with a rectangle surrounding all of the equalizers, the entire rectangle being labeled

as a single "DC-DC Converter")). Appellant has not provided any arguments as to why it would be improper to interpret the entire collection of equalizers as a DC-to-DC converter.

II.

Appellant also contends that Rouillard fails to disclose the claimed feature of "varying the voltage over a specific time period within a specific voltage interval" (App. Br. 6). Appellant specifically contends that

> Rouillard merely shows a voltage waveform of a cell subjected to the equalization procedure disclosed therein. . . . [T]here is no defined time period at all, much less one in which the voltage [of a cell] is "set to be higher than the respective nominal module voltage of each electrical storage module."

(*id.*).

This argument is not persuasive because it is not commensurate in scope with the language of the independent claims. On September 20, 2007 (roughly twenty-one months after the December 13, 2005, filing date) Appellant filed an amendment under 37 C.F.R. § 1.111, amending all of the claims. The amendment to the last paragraph of independent claim 1 is illustrative:

> wherein the DC-to-DC converter is <u>further</u> operable to control ~~each of~~ the <u>respective</u> voltage fraction ~~fractions~~ to vary ~~each~~ <u>the respective voltage</u> fraction over <u>a</u> time <u>period</u> within a voltage interval around the respective nominal module voltage of each <u>electrical storage</u> module <u>such that during the time period the respective voltage fraction supplied to each electrical storage module is set to be higher than the respective nominal module voltage of each electrical storage module</u>.[1]

[1] Text insertions are designated by underlining, and deletions are designated by strike-throughs.

The claim amendment raises some claim interpretation questions. For example, do various recitations of "the respective voltage fraction" (in the singular) intend to read "the respective voltage fractions" (in the plural), "each of the respective voltage fractions," or "one of the respective voltage fractions"? To the extent that the metes and bounds of this claim amendment can be determined, though,[2] the limitation's plain language does seem to require that during one specified time period "the respective voltage fraction supplied to *each* electrical storage module is set to be higher than the respective nominal module voltage of each electrical storage module" (claim 1 (emphasis added)). That is, the claim language requires that all storage modules simultaneously receive a voltage that is greater than the nominal module voltage. In contrast to the language of claim 1, we understand Appellant to be arguing that Rouillard fails to disclose voltage fractions for different storage modules being respectively set to be higher than the various storage modules' nominal module voltage *at respective time periods*.[3] That is, we understand Appellant to be arguing an unclaimed feature that is disclosed within the originally filed Specification.

CONCLUSION

For the foregoing reasons, Appellant has not persuaded us of error in the Examiner's anticipation rejection of independent claim 1. Independent

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[2] The issue of whether the metes and bounds of claim 1 are reasonably definite has not been raised on appeal. We therefore make no determinations in this regard.

[3] The issue of whether the September 20, 2007, claim amendment is adequately supported by the originally-filed Specification has not been raised on appeal. We therefore make no determinations in this regard.

claims 10 and 19 present the same issues. Accordingly, we will sustain the Examiner's anticipation rejection of claims 1, 10, and 19, as well as the rejection of dependent claims 3-5, 7-9, 12-14, 17, 18, and 20.

With respect to the remaining rejection of dependent claims 2 and 11, Appellant provides no patentability arguments regarding the obviousness of the additional language contained within these claims. Rather, Appellant repeats the arguments directed to claims 1 and 10 and applies them to the remaining rejection (App. Br. 7). For the reasons discussed above, then, we also sustain the rejections of claims 2 and 11.

DECISION

We sustain the Examiner's rejections with respect to all pending claims on appeal. Therefore, the Examiner's decision rejecting claims 1-5, 7-14, and 17-20 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2010).

AFFIRMED

babc